

**OPTIMIZED DATA STORAGE SYSTEM AND METHOD FOR OPTICAL STORAGE  
SYSTEM**

**ABSTRACT**

5       The accuracy of a data storage device is improved by incorporating a number of multipurpose reference bytes throughout the data. The reference bytes are used to coordinate the timing and accuracy of data when retrieved from the media. Additionally, the referene bytes provide meaningful error correction information in a manner that is easily implemented. This use of reference bytes supplements many well known error correction methodologies to provide  
10      for the accurate retrieval of information to the user. In order to coordinate the use of reference bytes, unique operations are undertaken using a predefined preamble to appropriately set the operating parameters of the storage device. For example, both the preamble and the reference bytes are used to carefully control the most optimun gain and phase control for the data storage device.